

The background of the slide is a light gray gradient. It is decorated with numerous realistic water droplets of various sizes. Some droplets are large and prominent, while others are small and subtle. They are scattered across the slide, with a higher concentration in the top-left and bottom-right corners. Each droplet has a soft shadow and a highlight, giving it a three-dimensional appearance.

# PART III: NON-PHARMACOLOGIC PAIN TREATMENT

ROBERT JENKINSON MD

JANUARY 3, 2019

# NON-PHARMACOLOGIC TREATMENT

- SELF-MANAGEMENT
- CONSERVATIVE TREATMENT
- COMPLEMENTARY TREATMENT
- INJECTION PROCEDURES
- IMPLANTED DEVICES

# SELF-MANAGEMENT

- PHYSICAL ACTIVITY!
  - START AT 5 MIN/DAY, WORK UP TO 30 MIN/DAY AEROBIC ACTIVITY
  - VERY GRADUAL
- SELF-MASSAGE TOOLS
  - THERACANE, BODY BACK BUDDY, ETC
- \$25 ON AMAZON.COM
- HOLD TRIGGER POINT WITH *LIGHT-MEDIUM* PRESSURE FOR 10-15 SEC



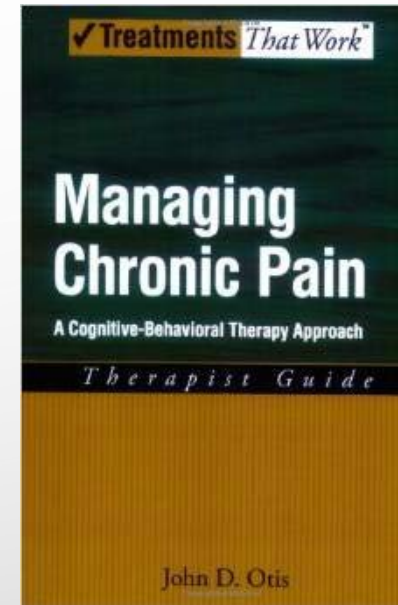
# CONSERVATIVE TREATMENT

- PHYSICAL THERAPY
  - ONE SIZE DOES NOT FIT ALL!
  - EARLY INSTITUTION
  - EXPERIENCED PROVIDERS
  - TAILORED TREATMENT
- POOL THERAPY
  - BRIDGE TO LAND-BASED PT
  - WARM POOLS



# CONSERVATIVE TREATMENT


- BEHAVIORAL MEDICINE
  - RELAXATION THERAPY
  - BEHAVIOR MODIFICATION
  - EDUCATION
  - BIOFEEDBACK
  - COUNSELING/THERAPY – CBT
  - HYPNOSIS
- BENEFICIAL FOR ALL!
- RECOGNIZE THE IMPACT OF MOOD ON PAIN AND VISA VERSA
  - CENTRAL SENSITIZATION



# CONSERVATIVE TREATMENT

- COMPLEMENTARY MEDICINE
  - ACUPUNCTURE
  - ACUPRESSURE
  - MASSAGE THERAPY
  - TAI CHI
  - MINDFULNESS MEDITATION

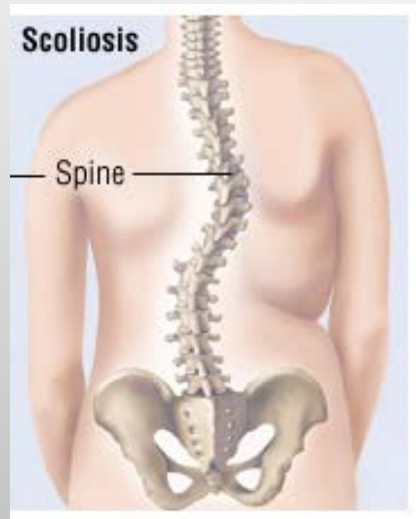


The background of the slide is a light gray gradient. It is decorated with numerous realistic water droplets of various sizes. Some droplets are large and prominent, while others are small and subtle. They are scattered across the slide, with a higher concentration in the top-left and bottom-right corners, framing the central text.

# INJECTION PROCEDURES

# CHRONIC SPINE PAIN

- MECHANICAL
  - SCOLIOSIS, ARTHRITIS, STENOSIS, DEGENERATIVE
  - FACET ARTHROPATHY, SACROILIAC JOINT ARTHROPATHY
  - FAILED BACK/NECK SURGERY SYNDROME

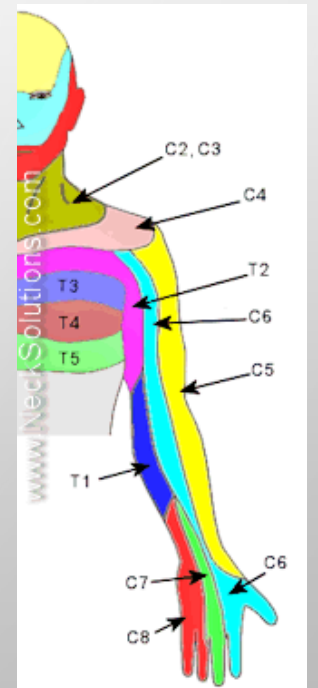
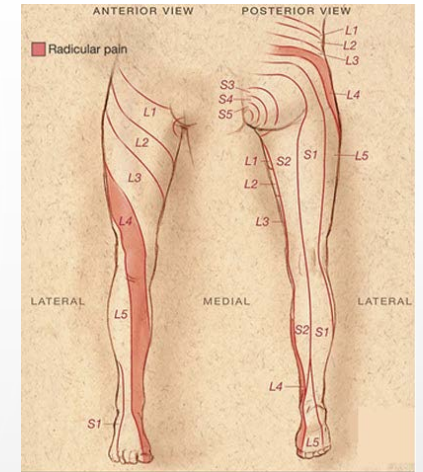




# EPIDURAL INJECTIONS

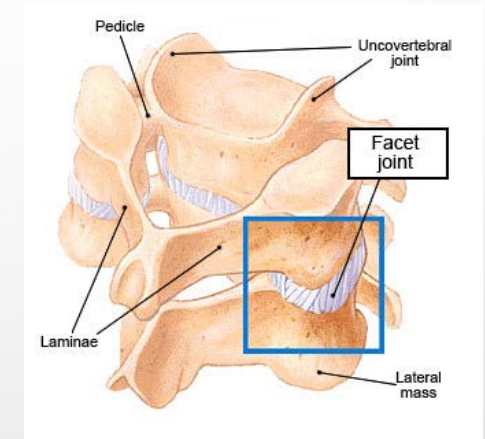
- EPIDURAL INJECTIONS

- LOCAL ANESTHETIC + STEROID INJECTED INTO EPIDURAL SPACE SURROUNDING NERVE ROOTS
  - CLEARS INFLAMMATORY MEDIATORS AND REDUCES INFLAMMATION/COMPRESSION
- INDICATED FOR RADICULAR UPPER EXTREMITY OR LOWER EXTREMITY PAIN
  - BURNING, SHOOTING PAIN IN SPECIFIC DISTRIBUTION TO DISTAL AREA OF LIMB
  - NEUROLOGIC DEFICITS → RADICULOPATHY, “JUST” PAIN – RADICULITIS
- ALSO INDICATED FOR SPINAL STENOSIS AND POSTHERPETIC NEURALGIA
- DIFFERENT APPROACHES DEPENDING ON NATURE AND LOCATION OF PAIN
- RELIEF LASTS 2-4 MONTHS ON AVERAGE



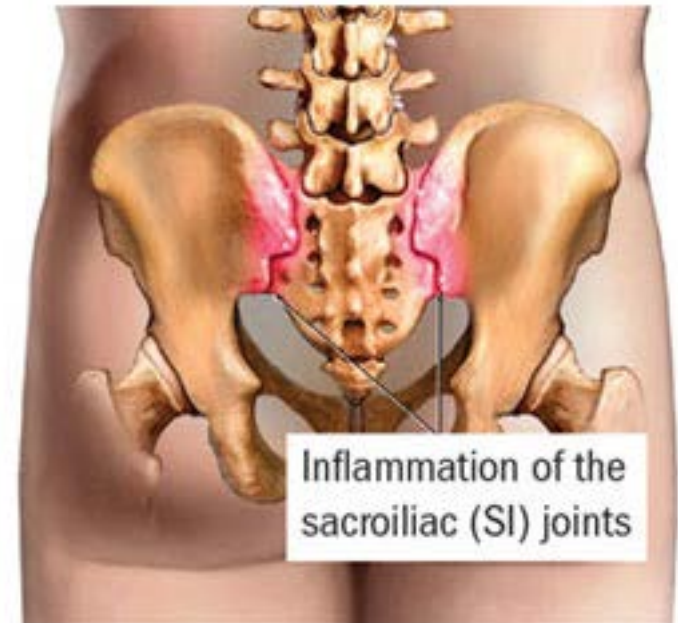
# FACET ARTHROPATHY

- PAIN JUST OFF MIDLINE, WORSE WITH EXTENSION/ROTATION
- DOES NOT CAUSE RADICULAR PAIN BUT PAIN CAN RADIATE LOCALLY
- CAN DEVELOP DUE TO ARTHRITIS, MISALIGNMENT
- INJECTIONS:
  - THERMAL ABLATION OF NERVE BRANCH THAT INNERVATES THE JOINT (OLDER)
    - LASTS 6-9 MONTHS, CAN BE REPEATED
  - INTRA-ARTICULAR STEROID INJECTIONS (YOUNGER)
    - LESS EFFECTIVE,



# SACROILIAC JOINT INJECTION

- JOINT AT INTERSECTION OF SPINE AND PELVIS
- SIGNIFICANT MOVEMENT AND WEIGHT LOADING
  - CAN DEVELOP PAIN DUE TO ARTHRITIS OR MISALIGNMENT
- PAIN OVER SI JOINT WITH RADIATION INTO BUTTOCK AND POSTERIOR THIGH
- “FABER” PROVOKES PAIN
  - FLEXION, ABDUCTION AND EXTERNAL ROTATION OF HIP
- LOCAL ANESTHETIC + STEROID, LASTS 3-4 MONTHS

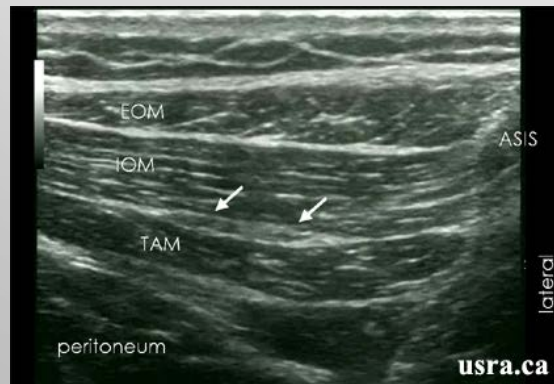


Copyright © 2009 Nucleus Medical Art, All rights reserved.

# PERIPHERAL NERVE INJECTIONS

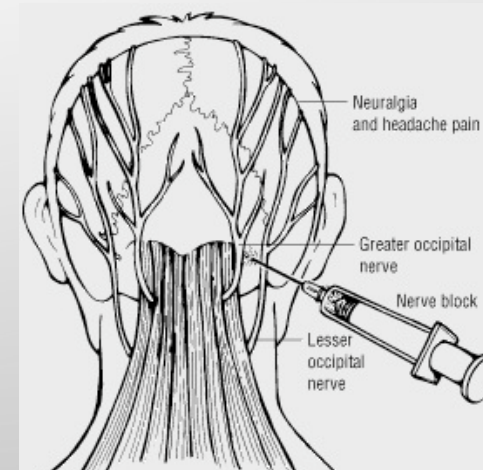
- **ILIONINGUINAL NERVE BLOCK**

- INDICATIONS: **ILIOINGUINAL NEURALGIA** (GROIN PAIN AFTER INGUINAL SURGERY/TUMOR)
- STEROID + LOCAL ANESTHETIC – LASTS APPROX 3 MONTHS



- **OCCIPIAL NERVE BLOCK**

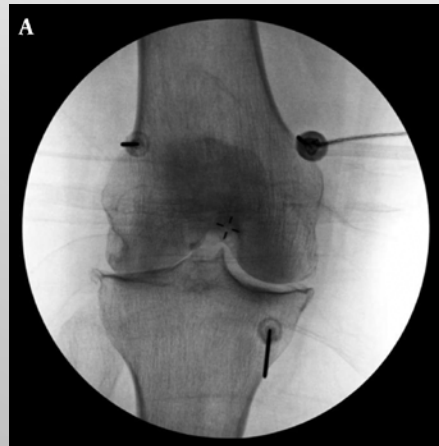
- Indications: **Occipital neuralgia** (occipital pain/HA after surgery or tumor)
- Steroid + local anesthetic – lasts approx 3 months



# PERIPHERAL NERVE INJECTIONS

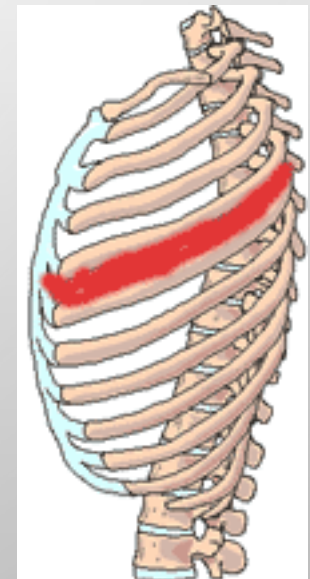
- GENICULAR NERVE BLOCK

- INDICATIONS: CHRONIC KNEE PAIN, NOT OPERATIVE CANDIDATE
- DIAGNOSTIC NERVE BLOCK WITH THERMAL ABLATION IF SUCCESSFUL
- SUCCESS 50/50



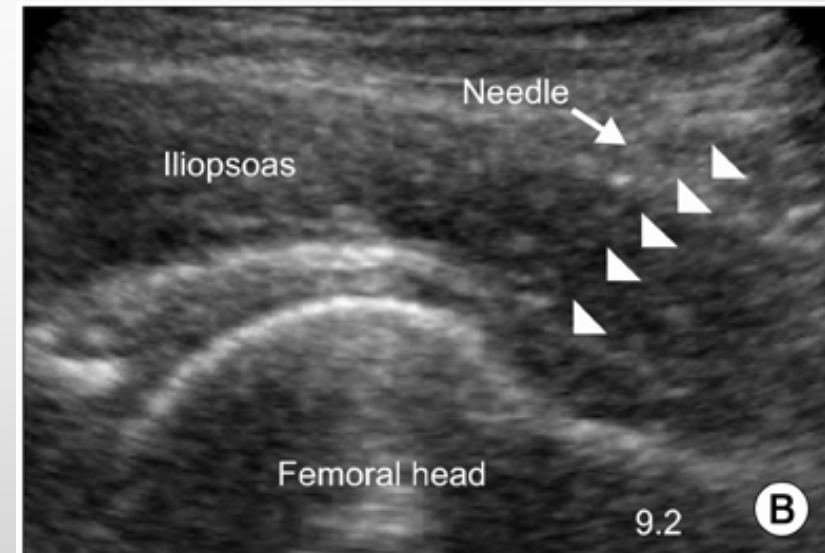
- INTERCOSTAL NERVE BLOCK

- Indications: Intercostal neuralgia, Chronic rib pain (post-thoracotomy)
- Local anesthetic + steroid




# JOINT INJECTIONS

- HIP, KNEE, SHOULDER MOST COMMON
  - PAINFUL OSTEOARTHRITIS OF JOINT
    - DX WITH X-RAY
  - STEROID + LOCAL ANESTHETIC – LASTS APPROX 3 MONTHS
  - HYALURONATE VISCOSUPPLEMENTATION FOR KNEES MAY LAST 6-12 MONTHS
  - ULTRASOUND, FLUOROSCOPY, “BLIND”





The background of the slide is a light gray gradient. It is decorated with numerous realistic water droplets of various sizes. Some droplets are at the top left, some are scattered in the middle, and a larger cluster of droplets is at the bottom right. The droplets have highlights and shadows, giving them a three-dimensional appearance.

# INVASIVE INJECTIONS AND IMPLANTED DEVICES

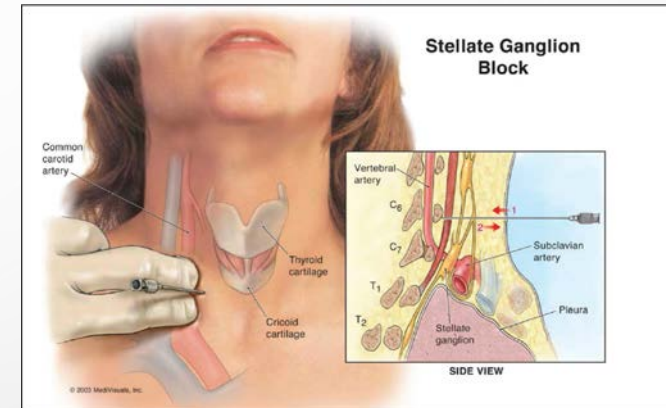
# SYMPATHETIC BLOCKS

- DIAGNOSTIC
  - IS THE PAIN SYMPATHETICALLY MEDIATED?
- THERAPEUTIC
  - LOCAL ANESTHETIC – BREAK THE CYCLE
    - SERIES OF SYMPATHETIC BLOCKS + PT FOR CRPS
  - STEROID – LITTLE EVIDENCE
  - CHEMICAL NEUROLYSIS – DENATURE THE NERVES
    - TERMINAL CANCER



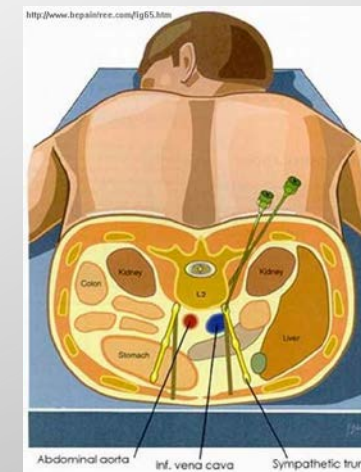
# SYMPATHETIC BLOCKS

- STELLATE GANGLION
  - NEUROPATHIC PAIN OF THE FACE, NECK, SHOULDER OR UPPER EXTREMITY
    - CRPS, PHANTOM LIMB, PHN



## LUMBAR SYMPATHETIC BLOCK

- NEUROPATHIC, SUSPECTED SYMPATHETICALLY-MEDIATED PAIN IN THE LOWER EXTREMITY
  - CRPS, PHANTOM LIMB PAIN, ISCHEMIC PAIN/VASCULAR INSUFFICIENCY



# SPINAL CORD STIMULATION

NEUROMODULATION: PROVIDE ALTERNATE INPUT TO SPINAL CORD TO “COVER UP” PAIN

- LEADS IMPLANTED IN EPIDURAL SPACE CONNECTED TO AN IMPLANTED BATTERY SOURCE
  - PATIENTS UNDERGO “TRIAL” FIRST WITH TEMPORARY PERCUTANEOUS LEADS FOR 3-7 DAYS
- MULTIPLE DEVICE COMPANIES, STIMULATION METHODS/PARAMETERS
- INTERNATIONAL NEUROMODULATION SOCIETY:



[HTT  
COM/SPINAL-CORD-STIMULATION](https://www.hugoboss.com/spinal-cord-stimulation)

# SPINAL CORD STIMULATION

- INDICATIONS:

- NEUROPATHIC PAIN IN LIMBS

- PERSISTENT RADICULAR PAIN, PHANTOM LIMB PAIN, POSTHERPETIC NEURALGIA, BRACHIAL PLEXUS INJURY

- FAILED BACK/NECK SURGERY SYNDROME

## RAPIDLY CHANGING

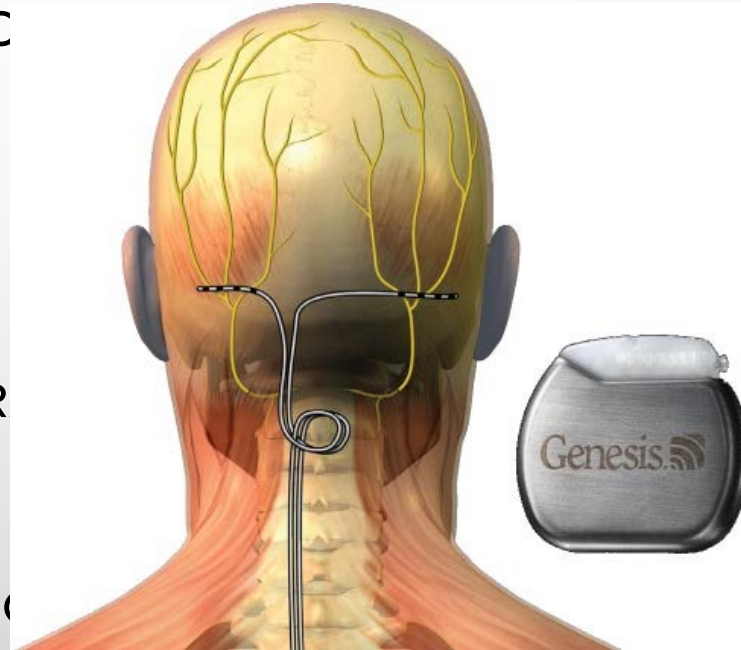
- HIGH-FREQUENCY SCS: EFFECTIVE FOR AXIAL LOW BACK OR NECK PAIN?
  - DORSAL ROOT GANGLION SCS: GROIN PAIN, ILIOINGUINAL PAIN, INTERCOSTAL PAIN, RADICULOPATHY?
  - NEW WAVEFORMS/PROGRAMMING TECHNIQUES: BURST, HIGH-DENSITY, ETC.

# SPINAL CORD STIMULATION

- DOWNSIDES:
  - INVASIVE
  - COMPLICATIONS
    - INFECTION OR MIGRATION RATE 3-10%
  - DIMINISHED EFFECT OVER TIME (5+ YEARS) IN SOME PATIENTS
    - MAY BE LESS WITH NEWER WAVEFORMS
  - DOES NOT TREAT MYOFASCIAL OR MECHANICAL PAIN
  - NOT ALL SYSTEMS ARE MRI-COMPATIBLE

# PERIPHERAL NERVE STIMULATION

- SIMILAR TO SPINAL CORD STIMULATION
- INDICATED FOR SPECIFIC NERVES
  - OCCIPITAL NEURALGIA
  - ILIOINGUINAL NEURALGIA
- MAY HAVE A ROLE IN CHRONIC MIGRAINE
- EMERGING FIELD
- INSURANCE COVERAGE CHALLENGING





# THANK YOU!

- QUESTIONS OR COMMENTS?
- 